

Solution for photovoltaic facades

SOLup is an attractive solution for integrating photovoltaic modules into facades of commercial and residential buildings.

Facade system with many advantages

Due to its modular construction as a rear-ventilated facade (curtain wall), SOLup avoids expensive special constructions. SOLup can be incorporated into many design and insulation concepts, for new buildings and retrofit for existing facades. SOLup is ideally suited as a component for facade PV systems due to its reinforced construction.

SOLup provides a comprehensive solution through the combination of a robust high-tech PV dual-glass module and a flexible substructure, including proof of structural stability.

Certifications

- EN 12179 and EAD 090062-00-0404 (wind load resistance)
- EN 12600:2011-11, DIN 18008-4:2013-07, EN 14019:2016-06 (Shock resistance)
- IEC 61215, IEC 61730, IEC 61701, IEC TS 62804 (module safety and reliability)
- BROOF (t1) nach DIN EN 13501-5:2016
- DIN EN 13501-1 B-s1 d0 (Fire behavior for PV-cutain wall, pending)

Special requirements

In addition to the required certifications for PV modules in the construction industry, SOLup offers a particularly high degree of compliance with the requirements for facade construction.

SOLup has passed the standard tests for resistance to wind load according to EN 12179 and the proof of impact resistance according to EN 12600, DIN 18008 and EN 14019 as a system structure. It also follows the generally accepted rules of technology in its methods of installation.

Integrative solution for architecture

The either transparent or full-black module design can be combined and accentuated in the vhF construction method with many facade claddings, such as HPL panels, metal or fiber cement to cover all facade areas.

Planning and installation

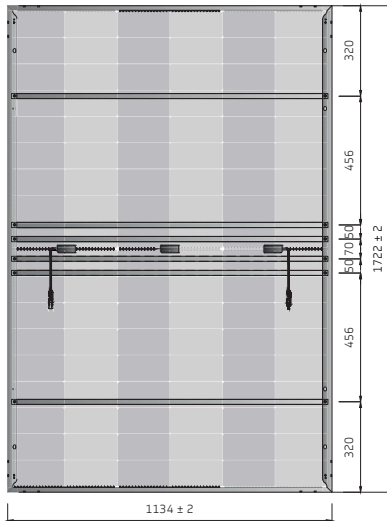
Our system partners are happy to advise you on the installation of your SOLup facade and can also offer all necessary installation services for this purpose.

System weight	13 kg/m ² incl. substructure
Technology	420 Wp TOPCon dual-glass
Module dimensions	2 m ² (1722 mm x 1134 mm)
Colour	F-TG transparent F-BG full-black

SOLup facade PV-module

System solution for photovoltaic facades

Technical data



General data

Type	F-TG 108n.3 and F-BG 108n.3
Power	420 Wp
Cell size and number	182 mm x 91 mm; 108 pcs.
Module dimensions	1722 mm x 1134 mm x 30 mm
Module weight	25.5 kg
Frame	Reinforced black anodized aluminium
Glass	2 x 2.0 mm tempered solar glass with anti-reflective coating
Junction box and IP rating	3 pcs. with one bypass diode each potted junction box, IP68
Connectors	4 mm ² solar cable, length 120 cm, original STÄUBLI MC4-Evo 2
Packing	18 modules horizontal on pallet

Connection and working conditions

Maximum system voltage	1500 V
Temperature range	-40 °C to +85 °C
Mechanical module resilience ¹	Pressure resistance tested at 5400 Pa Wind suction load capacity tested at 2400 Pa
Mechanical system resilience ²	Pressure resistance tested at 3600 Pa Wind suction load capacity tested at 3600 Pa
Safety class	II
Reverse current overload	20 A
Fire classes ³	C (UL 790) B _{ROOF} (t1) according to DIN EN 13501-5: 2016 B according to DIN EN 13501-1 s1 d0 (pending)
Hail resistance	Hailstones up to 25 mm in size and at a speed of 23 m/s

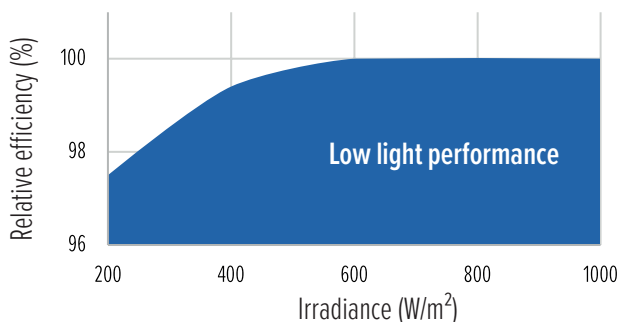
¹ Specified pressure load resistance: 3600 Pa and suction load resistance: 1600 Pa

² According to DIN EN 12179:2000 Curtain walling - Resistance to wind load

³ For all roof slopes

Temperature coefficients

TC of the maximum power (Pmax)	-0.32 %/°C
TC of open circuit voltage (Voc)	-0.25 %/°C
TC of short circuit current (Isc)	+0.045 %/°C



This data sheet corresponds to DIN EN 50380.
Developed and designed in Germany.

Electrical data (STC)

Nominal data at standard testing conditions (STC): Irradiance 1000 W/m²; Spectrum AM 1.5; module temperature 25 °C; sorting for Pmax 0 to +5 W

Type	F-TG 108n.3	F-BG 108n.3
STC power output Pmax (Wp)	420	420
Nominal power voltage Vmp (V)	31.51	31.51
Nominal power current Imp (A)	13.33	13.33
Open circuit voltage Voc (V)	38.11	38.11
Short circuit current Isc (A)	14.07	14.07
Bifacial coefficient (%)	80 ± 5	80 ± 5
Module efficiency (%)	21.5	21.5

Tolerance Pmax: ±3,0 %; Voc, Vmp, Isc, Imp tolerances: ±5,0 %

Electrical data (NMOT)

Nominal data at NMOT (Nominal Module Operation Temperature): Irradiation intensity 800 W/m²; spectral distribution AM 1.5; ambient temperature 20 °C; wind velocity 1 m/s

Type	F-TG 108n.3	F-BG 108n.3
Solar cell temperature (°C)	42 ± 2	42 ± 2
Power output (Wp)	319	319
Nominal power voltage Vmp (V)	29.70	29.70
Nominal power current Imp (A)	10.74	10.74
Open circuit voltage Voc (V)	36.10	36.10
Short circuit current Isc (A)	11.34	11.34

Tolerance Pmax: ±3,0 %; Voc, Vmp, Isc, Imp tolerances: ±5,0 %

